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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant   :   Yuji Maeda et al.

Serial No. :   09/048,076

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For   :   VECTOR SEARCH METHOD

Group A.U. :   2741

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1185 Avenue of the Americas
New York, NY 10036
(212) 278-0400

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

As a means of complying with the duty of disclosure set

forth in 37 C.F.R. § 1.56 and in keeping with the guidelines of

37 C.F.R. § 1.98, Applicants hereby submit information thought to

be relevant to the above-identified application. Also submitted

herewith is a completed form PTO-1449.

This information came to light during examination of a

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counterpart Singapore application in the Singapore Registry of Trademarks & Patents in an Office Action from the Austrian Patent Office dated June 14, 1999, and it is hereby certified that this information is being submitted within three months of that date.

U.S. Patent No. 5,519,806 (Nakamura) apparently relates to a system for searching a codebook in a speech encoder in which an excitation source is synthesized in accordance with the linear coupling of at least two basis vectors. Nakamura teaches computing an ordination Rm between an input speech signal $p(n)$ and plural reproduced signals $qm(n)$ obtained using plural base vectors, computing an ordination of a second cross correlation Dmj of the plural reproduced signals, providing one ordination $RDmj$ obtained from the first and second cross correlation Rm and Dmj, and executing calculation of the optimum codeword.

European Patent Application 0501420 (Miyano et al.) apparently relates to a speech coding method and system for coding a speech signal with high quality by a comparatively small amount of calculations at a low bit rate, specifically, at about 8 kb/s or less. Miyano et al. uses a linear predictive analyzer for receiving an input speech signal divided into frames of a fixed interval and finding a predictive parameter of the input speech signal. In addition, Miyano et al. uses an adaptive codebook that makes use of a long term correlation of the input speech signal, an adaptive codebook that makes use of long-term correlation of the input speech signal, an excitation codebook

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representing an excitation signal of the input speech signal, and a gain codebook for quantizing a gain of the adaptive codebook and a gain of the excitation codebook.
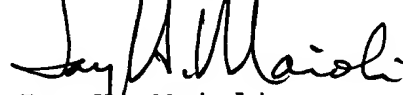
European Patent Application 0516439 (Yip et al.) apparently relates to an improved means and method for digital coding of speech or other analog signals. More particularly, Yip et al. concerns code excited linear predictive coding. The method of Yip et al. is intended to substantially reduce the computational burden of CELP coding speech based on adaptive and stochastic codebooks. In one embodiment, a recursive calculation loop is used to poll vectors of an adaptive codebook to select the optimal excitation vector. In the preferred embodiment, an impulse function of a short term perceptually weighted filter is convolved with perceptually weighted target speech and the result is cross-correlated with each vector in the adaptive codebook. The result in then combined with auto-correlated codebook vectors and auto-correlated impulse functions to produce an error function. The adaptive codebook having the minimum error function is chosen to represent the particular speech frame being examined.

No fee is deemed necessary in connection with the filing of this Information Disclosure Statement. However, if a fee is required for this submission, the Commissioner is authorized to charge the requisite fee to Deposit Account No. 03-3125.

Respectfully submitted,

COOPER & DUNHAM LLP

Jay H. Maioli
Reg. No. 27,213

JHM/KJB
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